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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,053	12/22/2004	Ramon Pascal Van Gorkom	NL 020568	6802

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER	
PERRY, ANTHONY T	
ART UNIT	PAPER NUMBER
2879	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/519,053	VAN GORKOM ET AL.	
	Examiner	Art Unit	
	Anthony T. Perry	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 December 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/12/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7 rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The acceleration electrode (8) which is applied with an acceleration voltage is critical or essential to the practice of the invention, but is not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). If there is no acceleration electrode located under the phosphor layers located on either side and below of the cathode, the secondary electrons will not be directed towards the phosphor and the device will not work. Furthermore, claims 2-3 refer to an acceleration voltage being applied to the device, but does not mention what part of the device it is applied to. The acceleration voltage is applied to the acceleration electrode (8), which is not claimed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4, and 5 rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al. (US 5,973,449).

Regarding claims 1 and 4, Nakamura et al. disclose a cathodoluminescent gas discharge display comprising a defined, gas-filled space (113), an anode (112) and a cathode (94,102) adapted to receive an electrical voltage and a luminescent screen comprising a phosphor (107R,107B,107G), wherein, when an electrical voltage is applied across the anode (112) and the cathode (94,102), a plasma comprising ions and electrons is generated by a gas discharge in the gas-filled space (113), said plasma ions impact on the cathode (94,102), and secondary electrons are created by said impact, characterized in that the anode (112) is provided on a rear substrate (in a rear section of the display) (92), the cathode (94,102) and the luminescent screen (107) are provided on a front substrate (in a front section of the display) (93), and said secondary electrons are used to excite the phosphor (luminescent substance) (107) (for example, see col. 19, line 48 – col. 21, line 30, the abstract, and Fig. 30).

Regarding claim 2, the voltage applied to the cathode (94,102) and anode (112) causes ions and electrons to be accelerated within the discharge space (113) causing secondary electrons to be emitted from the cathode (94,102) to the phosphor screen (107), and therefor the applied voltage is considered to be an acceleration voltage (for example, see col. 19, line 48 – col. 21, line 30, the abstract, and Fig. 30).

Regarding claim 5, the cathode (94,102) comprise a base layer (95,103) and a coating (96,104) of high secondary electron emitting material (for example, yttrium oxide) (for example, see col. 19, line 48 – col. 21, line 30, the abstract, and Fig. 30).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (US 5,973,449).

Regarding claim 3, Nakamura does not specifically recite a range for the acceleration voltage applied to the device. However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a suitable/optimal range for the value of the applied voltages, since optimization of workable ranges is considered within the skill of the art.

Regarding claim 6, Nakamura does not specifically recite a range for the thickness of the cathode electrode (94,102). However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a suitable/optimal range for the thickness of the cathode, since optimization of workable ranges is considered within the skill of the art.

Claims 6 and 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (US 5,973,449), as applied to claim 1, above, in view of Seats et al. (US 5,663,611).

Regarding claims 7, Nakamura teaches a cone-shaped cathode (126) in an embodiment shown in figure 31, but does not specifically state that such a cone-shaped emitter can be used in the display shown in figure 30.

However, Seats et al. teach the use of a cone-shaped cathode emitter used as the cathode in a plasma display device (same type of device shown in figure 30 of the Nakamura reference). Nakamura teaches that a cathodoluminescent gas discharge display using such cone-shaped cathode emitters results in a display device that requires a low initiation voltage, requiring low voltage driver circuits, which can reduce the cost, be more compact, and result in lower heat dissipation than in conventional cathodoluminescent gas discharge displays (for example, see Figs. 2-3 and col. 4, line 61 – col. 5, line 9). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use cone-shaped cathode emitters as the cathodes of the Nakamura reference, in order to provide a more efficient compact display.

Regarding claim 6, Seats teaches the cone-shaped cathodes having a thickness of 1-2 microns (between 100nm and 100 microns) (for example, see col. 3, lines 64-67).

The same reasons for combination given in the rejection of claim 7, above, apply.

Other Prior Art Cited

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wang et al. (US 6,486,599) and Lee et al. (US 2002/0175617) disclose devices similar to one claimed.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Anthony Perry* whose telephone number is **(571) 272-2459**. The examiner can normally be reached between the hours of 9:00AM to 5:30PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-2457. **The fax phone number for this Group is (571) 273-8300.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anthony Perry
Patent Examiner
Art Unit 2879
March 18, 2007

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